

MUSIC PIECE DATA MANAGING APPARATUS AND IN-VEHICLE

AUDIO INFORMATION REPRODUCTION CONTROL SYSTEM

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates to an apparatus for managing music piece data and also to an in-vehicle audio information reproduction control system constituted by music piece data managing apparatuses each having a hard disk therein on which music piece data has been stored and an in-vehicle audio information reproducing apparatus.

2. Description of Related Art

In conventional in-vehicle audio information reproducing apparatuses, a multidisk changer is widely used in which a plurality of audio discs such as CD, MD, or the like are housed, so that a desired disk is in turn selected for reproduction from among the housed discs.

In recent years, downsizing and decreased price of hard disks having an extremely large memory capacity have been achieved, and the use of in-vehicle audio information reproducing apparatuses having a hard disk therein is wide spread. In those in-vehicle audio information reproducing apparatuses, music piece data recorded on a large number of discs can be stored in a hard disk, thereby making the most of the large memory capacity of the hard disk. Once music piece data recorded on CDs and MDs is stored onto the hard disk, the user will be able to reproduce and enjoy desired music pieces without the difficulty of exchanging discs.

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In such a hard disk, management data including the order of reproduction and additional information such as titles of music pieces, genres of the music pieces, and the like is added to the stored music piece data. Since the in-vehicle audio information reproducing apparatus having the hard disk therein has a function for editing the management data, the order of reproduction can be freely edited according to the user's preference. For example, the order of reproduction of the music pieces can be determined in terms of artists or music genres.

However, if the number of music pieces stored onto the hard disk becomes very large, a long time may be needed to edit the management data mentioned above.

That is, it may take a very long time for the user to search out a desired music piece from the music piece data stored on a large capacity hard disk and execute an editing operation while considering the order of reproduction. If the user tries to execute the editing operation for a long time in a small vehicle space, substantial strain will be placed on the user and there is also a possibility that an erroneous operation occurs in the editing process.

In the in-vehicle audio apparatuses, since the casing is generally small in size, only a small-sized display and a small number of operation keys and the like which are necessary for the editing operation but small in size can be arranged. The user, therefore, has to execute each one of the processes by operating one operation key a plurality

of times while looking at a small display screen, so that an operating process to execute the necessary and sufficient editing operations for a number of music piece data, will be considerably troublesome for the user.

OBJECT AND SUMMARY OF THE INVENTION

The present invention has been made to solve the drawback of conventional systems mentioned above and it is an object of the invention to provide an in-vehicle audio information reproduction control system which does not require editing of the order of reproduction of music piece data by complex operations in a small vehicle space.

According to the invention, there is provided an in-vehicle audio information reproduction control system comprising:

a music piece data managing apparatus including a storage part for storing music piece data and management data associated therewith in a way allowing additional writing, a display part for displaying the management data stored in the storage part and displaying a message to prompt an input operation for instructing an order of reproduction of the music piece data, a reproducing order generating part for generating reproducing order data to determine an order of reproduction of music pieces which are played based on the input operation, and a data transfer part for transferring the reproducing order data by a data transfer media; and

an in-vehicle audio information reproducing apparatus